

IN THE CLAIMS

Please cancel claims 43 and 53-62 and amend claims 1-3, 5, 13, and 44-50 as follows:

1. (Currently Amended) An opto-electronic package, comprising:

a substrate;

an optically active device flip-chip bonded to the substrate, wherein the optically active device is selected from the group consisting of a vertical cavity surface emitting laser (VCSEL) having a lens directly attached thereto, an array of vertical cavity surface emitting lasers having a microlens array directly attached thereto, a light emitting diode (LED) having a lens directly attached thereto, a photodetector having a lens directly attached thereto, and an optical modulator having a lens directly attached thereto; and

an integrated circuit bonded to the substrate.
2. (Currently Amended) The opto-electronic package of claim 1, wherein the optically active device is flip-chip bonded to the substrate using solder bumps.
3. (Currently Amended) The opto-electronic package of claim 1, wherein the substrate is selected from the group consisting of a Ball Grid Array substrate, an organic laminate substrate, and a multi-layer ceramic substrate.
4. (Canceled)
5. (Currently Amended) The opto-electronic package of claim 1, wherein the integrated circuit is selected from the group consisting of an optical device driver, a transimpedance amplifier, a microprocessor, a microprocessor chip set, a networking integrated circuit, and a memory.
6. (Original) The opto-electronic package of claim 1, further including a printed circuit board (PCB) bonded to the substrate.

7. (Original) The opto-electronic package of claim 6, wherein the PCB includes a waveguide to propagate light to or from the optically active device.
8. (Original) The opto-electronic package of claim 7, wherein the waveguide includes a holographic element to diffract light to or from the optically active device.
9. (Original) The opto-electronic package of claim 7, wherein the waveguide includes a sloped facet to reflect light to or from the optically active device.
10. (Original) The opto-electronic package of claim 6, wherein the printed circuit board (PCB) is flip-chip bonded to the substrate using solder reflow technology, where solder reflow surface tension pulls the substrate into alignment with the PCB.
11. (Canceled)
12. (Previously Presented) The opto-electronic package of claim 13, wherein the substrate is selected from the group consisting of a Ball Grid Array substrate, an organic laminate substrate, and a multi-layer ceramic substrate.
13. (Currently Amended) An opto-electronic package, comprising:
 - a substrate;
 - an integrated circuit ~~[[is]]~~ bonded to the substrate; and
 - an optically active device with a directly attached optical element flip-chip bonded to the integrated circuit, wherein the optically active device with the directly attached optical element is selected from the group consisting of a vertical cavity surface emitting laser (VCSEL) having a lens directly attached thereto, an array of vertical cavity surface emitting lasers having a microlens array directly attached thereto, a light emitting diode (LED) having a lens directly attached thereto, a photodetector having a lens directly attached thereto, and an optical modulator having a lens directly attached thereto.

14. (Previously Presented) The opto-electronic package of claim 13, wherein the optically active device with the directly attached optical element is flip-chip bonded to the integrated circuit using solder bumps.
15. (Previously Presented) The opto-electronic package of claim 13, wherein the integrated circuit is selected from the group consisting of an optical device driver, a transimpedance amplifier, a microprocessor, a microprocessor chip set, a networking integrated circuit, and a memory.
16. (Previously Presented) The opto-electronic package of claim 13, further including a printed circuit board (PCB) bonded to the substrate.
17. (Original) The opto-electronic package of claim 16, wherein the PCB includes a waveguide to propagate light to or from the optically active device.
18. (Original) The opto-electronic package of claim 17, wherein the waveguide includes a holographic element to diffract light to or from the optically active device.
19. (Original) The opto-electronic package of claim 17, wherein the waveguide includes a sloped facet to reflect light to or from the optically active device.
20. (Original) The opto-electronic package of claim 16, wherein the printed circuit board (PCB) is flip-chip bonded to the substrate using solder reflow technology, where solder reflow surface tension pulls the substrate into alignment with the PCB.
- 21-43 (Canceled)
44. (Currently Amended) The opto-electronic package of claim 46 ~~[[43]]~~, wherein the optically active device is flip-chip bonded to the substrate using solder bumps.
45. (Currently Amended) The opto-electronic package of claim 46 ~~[[43]]~~, wherein the substrate is selected from the group consisting of a Ball Grid Array substrate, an organic

laminate substrate, and a multi-layer ceramic substrate.

46. (Currently Amended) An opto-electronic package, comprising: The opto-electronic package of claim 43

a substrate;

an optically active device with a directly attached optical element flip-chip bonded to the substrate, wherein the optically active device with the directly attached optical element is selected from the group consisting of a vertical cavity surface emitting laser (VCSEL) having a lens directly attached thereto, an array of vertical cavity surface emitting lasers having a microlens array directly attached thereto, a light emitting diode (LED) having a lens directly attached thereto, a photodetector having a lens directly attached thereto, and an optical modulator having a lens directly attached thereto; and

an integrated circuit bonded to the substrate.

47. (Currently Amended) The opto-electronic package of claim 46 ~~[[43]]~~, wherein the integrated circuit is selected from the group consisting of an optical device driver, a transimpedance amplifier, a microprocessor, a microprocessor chip set, a networking integrated circuit, and a memory.

48. (Currently Amended) The opto-electronic package of claim 46 ~~[[43]]~~, further including a printed circuit board (PCB) bonded to the substrate.

49. (Currently Amended) The opto-electronic package of claim 48, wherein the PCB includes a waveguide to propagate light to or from the optically active device.

50. (Currently Amended) The opto-electronic package of claim 49, wherein the waveguide includes a holographic element to diffract light to or from the optically active device.

51. (Previously Presented) The opto-electronic package of claim 49, wherein the waveguide includes a sloped facet to reflect light to or from the optically active device.

52. (Previously Presented) The opto-electronic package of claim 48, wherein the printed circuit board (PCB) is flip-chip bonded to the substrate using solder reflow technology, where solder reflow surface tension pulls the substrate into alignment with the PCB.

53-62 (Canceled)

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